

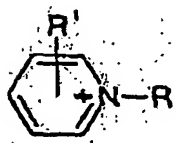
What is claimed is:

1. An ionic liquid comprising a mixture of one or more triflate or bis(trifluoromethylsulfonyl)imide salt(s) with one or more Lewis acid(s) wherein the total of the molar contents of the Lewis acid(s) in the mixture is from about 0.01–98%.
2. The ionic liquid of claim 1 in which the total of the molar contents of the Lewis acid(s) in the mixture is from about 50–85%
3. The ionic liquid of claim 2 in which the total of the molar contents of the Lewis acid(s) in the mixture is from about 67–80%.
4. The ionic liquid of any one of claims 1 to 3, wherein the triflate or bis(trifluoromethylsulfonyl)imide salt that is used is an
 - (1) ammonium,
 - (2) phosphonium,
 - (3) imidazolium, or
 - (4) pyridinium salt.
5. The ionic liquid of claim 4 wherein the cation of the triflate or bis(trifluoromethylsulfonyl)imide salt is (1) a quaternary ammonium cation having the general formula $[NR^1R^2R^3R]^+$; (2) a phosphonium cation having the general formula $[PR^1R^2R^3R]^+$; (3) an imidazolium cation having the general formula of Formula I:



where the imidazole ring of Formula I can be substituted with one or more groups selected from the C_1 – C_8 alkyl, C_6 – C_{12} -aryl, or C_5 – C_{12} -aryl- C_1 – C_6 alkyl groups;

(4) pyridinium cations of the general formula of Formula II



where the pyridine ring of Formula II can be substituted with one or more groups comprising the C_1-C_8 alkyl, or C_6-C_{12} -aryl, or C_5-C_{12} -aryl- C_1-C_6 alkyl groups;

and the substituents R , R^1 , R^2 , R^3 are selected independently of each other from the group comprising hydrogen; linear or branched, saturated or unsaturated, aliphatic or alicyclic alkyl groups having 1 to 20 carbon atoms; and aryl, aryl- C_1-C_6 alkyl groups having 6 to 12 carbon atoms in the aryl moiety, which may optionally be substituted with at least one C_1-C_6 alkyl group.

6. The ionic liquid of any one of claims 1 to 5, wherein the Lewis acid is $AlCl_3$, $AlBr_3$, $SnCl_2$, $FeCl_3$, or $ZnCl_2$.
7. The ionic liquid of claims 6, wherein the Lewis acid is $AlCl_3$.
8. The ionic liquid of claim 6, wherein the Lewis acid is $FeCl_3$.
9. The process for preparing the ionic liquid of any one of claims 1 to 8 comprising proportionally adding the Lewis acid(s) to the triflate or bis(trifluoromethylsulfonyl)imide salt(s) while stirring at temperatures from 0 to $300^\circ C$, preferably from 20 to $180^\circ C$, more preferably from 50 to $150^\circ C$, to yield the ionic liquid as a liquid-liquid multiple-phase system.
10. The use of the ionic liquid of any one of claims 1 to 8 as the catalyst or catalytically active reaction medium, wherein the reaction is an Lewis acid-catalyzed reaction.
11. The use of claim 10 in which the Lewis acid-catalyzed reaction comprises Friedel-Crafts alkylation reactions, Friedel-Crafts acylation reactions, alkylation reactions, carbonylization reactions, isomerization reactions, and oligomerization reactions.